

Grade 4 Super Screens Math Rubric

2015-2016 NYC Baseline Performance Tasks

Instructions

- The following pages contain the rubric to be used for the scoring of the above-named NYC Performance Task.
- The rubric is intended to be used in conjunction with the Scoring Guide for each task, which provides annotated samples of student work scored against the rubric.
- Fall Baseline tasks may be administered and scored by the regular classroom teacher.
- All student work should be completed in the task booklet. All student work in the task booklet should be scored, regardless of whether the student completed or attempted every question.
- All scores should be recorded on the appropriate answer sheet.
- For assistance with scanning answer sheets, see the Baseline Assessment Administration Handbook.

	4 Points	3 Points	2 Points	1 Point	0 Points
T1 Trait 1 4.OA.2 (Q1)			<ul style="list-style-type: none"> The student gives both of the correct answers: 14 inches and 6 times. 	<ul style="list-style-type: none"> The student gives one of the two correct answers: 14 inches or 6 times. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T2 Trait 2 4.MD.3 (Q2)			<ul style="list-style-type: none"> The student gives the correct answer, 14 inches. ----- and ----- The student shows a correct process for finding the width of the screen, such as: $126 \div 9 = 14$ or $7 \times 14 = 126$, or other valid work. 	<ul style="list-style-type: none"> The student gives the correct answer, 14 inches, and no work is shown. ----- or ----- A correct process is started, but computational error leads to incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T3 Trait 3 4.OA.4 (Q3)		<ul style="list-style-type: none"> The student gives the correct answer, 4 inches and 18 inches. ----- and ----- The student shows a correct process for finding the length and width of the 72-square-inch screen, such as: $4 \times 18 = 72$, $2(4 + 18) = 44$ or other valid work. 	<ul style="list-style-type: none"> The student gives correct answer. ----- and ----- The student's work is incomplete or missing key components, such as not setting up the equation. 	<ul style="list-style-type: none"> The student gives the correct answer and no work is shown. ----- or ----- A correct process is started, but computational error leads to incorrect answer, such as student does not take the perimeter of 44 inches into consideration. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T4 Trait 4 4.NBT.5 (Q4)		<ul style="list-style-type: none"> The student gives correct answer, 1,512 square inches. ----- and ----- The student shows a correct process for finding the area of the screen, such as: 36×42, an array, an area model, or an equivalent equation or representation. 	<ul style="list-style-type: none"> The student gives correct answer. ----- and ----- The student's work is incomplete or missing key components. ----- or ----- A correct process is started, such as converting 3 feet to 36 inches but no further correct work is shown. 	<ul style="list-style-type: none"> The student gives correct answer and no work is shown. ----- or ----- A correct process is started, such as converting 3 feet to 36 inches but no further correct work is shown. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.

	4 Points	3 Points	2 Points	1 Point	0 Points
<p>T5 Trait 5 4.OA.5 (Q5a, Q5b, Q5c)</p>	<ul style="list-style-type: none"> The student gives all four of the correct areas: 32 square inches, 37 square inches, 42 square inches, and 47 square inches. The student gives the correct answer: 7. The student gives a correct explanation, such as: "The one's place alternates between 7 and 2, with the one's place being 7 if the length is odd (and 2 if the length is even.)" or other valid explanation. 	<ul style="list-style-type: none"> The student gives all four of the correct areas. The student gives the correct answer, 7. The student identifies the pattern and gives a correct explanation without calculating the actual area. 	<ul style="list-style-type: none"> The student gives three of the correct areas. The student gives the correct answer, 7. The student identifies the correct pattern and gives a correct explanation, but does it calculating the actual area. 	<ul style="list-style-type: none"> The student gives no correct areas, but there is a pattern. The student gives the correct answer, 7. The student identifies the correct pattern and gives a correct explanation, but does it calculating the actual area or gives an explanation without calculating for the pattern in Part A. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
<p>T6 Trait 6 4.MD.2 (Q6)</p>			<ul style="list-style-type: none"> The student gives the correct answer, \$3.80 (accept 380 cents). The student shows a correct process for finding the cost of the 5-inch-by-5-inch screen, such as $10 \times 27 + 22 \times 5 = 270 + 110 = 380$ or other valid work. 	<ul style="list-style-type: none"> The student gives the correct answer and does not show work. A correct process is started, but computational error leads to incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
<p>T7 Trait 7 4.OA.3 (Q7)</p>			<ul style="list-style-type: none"> The student gives a correct explanation, such as: "A little less than 40 screens can be made: $8 \times 40 = 320$. There is 10 square inches less glass (310), so almost 39 (38 complete screens) screens can be made." or other valid explanation as long as estimation is used to show that Lucia's thinking is incorrect. 	<ul style="list-style-type: none"> The student uses estimation to show that Lucia's thinking is incorrect. However, explanation has misconceptions and/or mathematical errors. The student uses exact calculations to show that Lucia's thinking is incorrect. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.

Level 4 Exceeding Standards <i>15 - 18 points</i>	Level 3 Meeting Standards <i>10 - 14 points</i>	Level 2 Approaching Standards <i>5 - 9 points</i>	Level 1 Attempting Standards <i>0 - 4 points</i>
<p>Student demonstrates deep understanding of applying the four operations to solving problems with whole numbers (all questions)¹. Student multiplies and divides with one- and two-digit numbers (all questions). Student is comfortable with factors and multiples (Q3) and uses estimation to check the reasonableness of results (Q7). Student can generate and analyze patterns (Q5b, Q5c). Student makes comparisons between quantities, additive and multiplicative (Q1).</p>	<p>Student demonstrates understanding of applying the four operations to solving problems with whole numbers. Student makes a good attempt at multiplying and dividing with one- and two-digit numbers. Student tries to find all factors of a number. Student uses estimation, but may round after calculating. Student can generate patterns and attempts to apply this in problem solving. Student makes comparisons between quantities. Minor errors occur.</p>	<p>Student is only able to be successful on part of the performance task. Student is likely to calculate quantities, but may have difficulty finding factors. Student may struggle with applying estimation to check the reasonableness of results. Student may have trouble either generating or analyzing patterns. Student can apply either additive or multiplicative comparison, but not both.</p>	<p>Student demonstrates minimal success on the task. There are some attempts, but complete work does not exist. Student is likely to calculate quantities, but struggles with problem solving and using two-step equations. Student struggles with reasoning and explaining his/her work.</p>
<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few or no errors. Student's response shows a deep understanding of the problem. Student is able to build a logical progression of statements to explain thinking (Q5c). Student's response routinely interprets mathematical results in the context of the situation (all questions). The communication is clear (all work shown for all questions). All of the steps are included so that the reader does not need to infer how and why decisions are made (all work shown for all questions). Mathematical representation is actively used to communicate the solution to the problem. There is precise and appropriate use of mathematical terminology and notation (all work shown for all questions). Student often discerns patterns or structures and makes connections between quantities and representations.</p>	<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few errors. For most of the task, student's response shows broad understanding of the problem and the major concepts necessary for a solution. Student explains the problem and describes the solution path. Effective mathematical reasoning is used. There is a sufficiently clear communication to be able to follow reasoning. There is appropriate use of accurate mathematical representation. There is effective use of mathematical terminology and notation. Student makes sense of quantities and their relationships in the problem situations. Student might notice patterns or structures and make connections between quantities and representations.</p>	<p>Student's response shows some of the elements of performance that the tasks demand and some signs of a coherent approach to problem solving as defined by the Common Core standards. Student uses a strategy that is partially useful, leading some of the way to a solution. The solution is not complete. The solution addresses some but not all of the mathematical components in the task. Some evidence of mathematical reasoning is evident. Some parts of the work may be correct. There is an incomplete explanation, or it may not be clearly presented. There is some use of appropriate mathematical representation. There is some use of mathematical terminology and notation that is appropriate to the problem. Student may recognize some patterns or structures, but does not yet generalize or use them to solve the problem.</p>	<p>Student's response shows a few of the elements of performance that the tasks demand as defined by the Common Core standards. However, the misconceptions are substantial and require further instruction. There is no solution, or the solution has no relationship to the task. There is hardly any evidence of a strategy or procedure. There is hardly any evidence of mathematical reasoning. There are many errors in mathematical procedures. Lack of communication makes it difficult to follow student's reasoning, or it is unrelated to the problem. There is no use, or inappropriate use, of mathematical representation, mathematical terminology, and notation. Student is not yet recognizing patterns or the structure of the problem situation.</p>

¹This notation identifies the questions that relate to the holistic rubric criteria.